

ABSTRACT OF THE DISCLOSURE

A method and apparatus is provided for consolidating cryptographic key updates, the
5 consolidated update information enabling, for example, a returning member of a secure
group who has been offline, to recover the current group key, at least in most cases. The
unconsolidated key updates each comprise an encrypted key, corresponding to a node of a
key hierarchy, that has been encrypted using a key which is a descendant of that node. The
key updates are used to maintain a key tree with nodes in this tree corresponding to nodes
10 in the key hierarchy. Each node of the key tree is used to store, for each encrypting key
used in respect of the encrypted key associated with the node, the most up-to-date version
of the encrypted key with any earlier versions being discarded. The key tree, or a subset of
the tree, is then provided to group members.